DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2, 5, 6, 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allegrezza (US 2004/0103437) in view of Seifert (US 2001/0021999).

Regarding claim 1, Allegrezza discloses a broadcast system for broadcasting at least one title; the system includes:

A plurality of broadcast receivers (fig. 1, 130A, 130B);

A hierarchical network of data distributors starting from a central distributor through at least one layer of intermediate distributors to the broadcast receivers (fig. 1);

However, Allegrezza does not disclose a near video on demand protocol and broadcasting the title as a sequence of data blocks.

In analogous art, Seifert discloses a near video on demand protocol ([0037, 0039]) and broadcasting the title as a sequence of data blocks ([0038]).

It would have been obvious to combine the NVOD system of Seifert into the broadcast system of Allegrezza. This would allow the broadcast system to provide VOD functionality with the NVOD system's benefit of consuming lower amounts of bandwidth.

Allegrezza in view of Seifert disclose at least one filter controller (fig. 2(205) of Allegrezza) operative to receive requests from broadcast receivers for the supply of the title ([0028] of Allegrezza) and for controlling at least one intermediate distributor to filter out data blocks ([0038] of Seifert) of the title that have not been requested by receivers hierarchically below the intermediate distributor ([0013, 0047] of Allegrezza).

Regarding claim 2, Allegrezza in view of Seifert discloses A broadcast system as claimed in claim 1, wherein data blocks of the title are broadcast via a plurality of channels using sequential time-slots (fig. 4 of Seifert) within the channels ([0105] of Seifert) according to a near-video-on-demand schedule that for each data block of the title prescribes a time-slot and channel for broadcasting the data block relative to a time-slot used for broadcasting a first data block of the title; data blocks assigned to a channel being repeatedly broadcast within the channel ([0038], fig. 4 of Seifert); the filter controller being operative to:

store information on all receivers hierarchically below the intermediate distributor that have requested the title (hereinafter "interested receivers") to enable the filter controller to determine for each channel whether at least one of the interested receivers needs to receive a data block assigned to the channel ([0028] of Allegrezza); and

control the intermediate distributor to filter out a channel if no interested receiver needs to receive a data block assigned to the channel ([0047] of Allegrezza).

Regarding claim 5, Allegrezza in view of Seifert discloses A system as claimed in claim 2, the filter controller is operative to use the stored information to determine for each channel whether at least one interested receiver needs to receive a data block in a

next time-slot of the channel and to control the intermediate distributor to filter out the data block if no interested receiver needs to receive the data block in the next time-slot ([0047] of Allegrezza, [0038], fig. 4 of Seifert).

Regarding claim 6, Allegrezza in view of Seifert discloses A system as claimed in claim 5, wherein the channels are time-multiplexed ([0099] of Seifert).

Regarding claim 8, Allegrezza in view of Seifert discloses A system as claimed in claim 1, wherein the intermediate distributor includes the filter controller (fig. 2 of Allegrezza).

Regarding claim 9, Allegrezza in view of Seifert discloses A system as claimed in claim 1, wherein at least one of the broadcast receivers is operative to communicate to the filter controller via an upstream channel of the broadcast system ([0025] of Allegrezza).

Regarding claim 10, Allegrezza in view of Seifert discloses A method of broadcasting at least one title as a sequence of data blocks ([0038] of Seifert) through a hierarchical network of data distributors starting from a central distributor through at least one layer of intermediate distributors to the broadcast receivers using a near-video-on-demand broadcasting protocol; the method including:

receiving requests from broadcast receivers for the supply of the title ([0028] of Allegrezza);

in at least one intermediate distributor filtering out data blocks of the title that have not been requested by receivers hierarchically below the intermediate distributor ([0047] of Allegrezza).

Regarding claim 11, see the rejection of claim 1.

Regarding claim 12, see the rejection of claim 1.

Regarding claim 13, see the rejection of claim 1.

Claims 3, 4, 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Allegrezza (US 2004/0103437) in view of Seifert (US 2001/0021999) as applied to claim 2 above, further in view of Krause (US 5,612,742) further in view of Kermode (US 6,018,359).

Regarding claim 3, Allegrezza in view of Seifert discloses A broadcast system as claimed in claim 2, wherein the near-video-on-demand schedule prescribes that data blocks of the title are broadcast via c parallel equal capacity channels of the broadcast system, where each broadcast channel is associated with a respective sequential channel number ([0038, 0103] of Seifert); the title being divided in a plurality of consecutive data block sequences ([0109, 0022, 0078, 0112] of Seifert); each block sequence being assigned to one respective channel according to the sequence of the channel numbers ([0109-0112] of Seifert);

However, Allegrezza in view of Seifert does not disclose each block sequence being assigned to one respective channel according to the sequence of the channel numbers; each channel repeatedly broadcasting the blocks of the assigned block

sequence; the broadcast receiver having a capacity to simultaneously receive a plurality r (1<r<c) of the channels.

In analogous art, Krause discloses each block sequence being assigned to one respective channel according to the sequence of the channel numbers; each channel repeatedly broadcasting the blocks of the assigned block sequence (col. 4 lines 6-22, col. 11 lines 64- col. 12 lines 11); the broadcast receiver having a capacity to simultaneously receive a plurality r (1<r<c) of the channels (col. 2 lines 66- col. 3 lines 15).

It would have been obvious to combine the sequencing of Krause into the broadcasting system of Allegrezza in view of Seifert. This would provide the advantage of being able to receive an later or earlier segment of the program.

However, Allegrezza in view of Seifert in view of Krause also fails to disclose the broadcast receiver being operative to receive a title by starting reception of the sequentially lowest r channels and each time in response to having received all blocks of the block sequence of a channel i terminate reception of channel i and start reception of channel r+i until all block sequences have been received.

In analogous art, Kermode discloses the broadcast receiver being operative to receive a title by starting reception of the sequentially lowest r channels and each time in response to having received all blocks of the block sequence of a channel i terminate reception of channel i and start reception of channel r+i until all block sequences have been received (col. 4 lines 29-45).

It would have been obvious to combine the functionality of Kermode into the broadcast system of Allegrezza in view of Seifert in view of Krause for the advantage of sequentially presenting new segments that are being downloaded.

Regarding claim 4, Allegrezza in view of Seifert in view of Krause in view of Kermode discloses A system as claimed in claim 3, wherein the near-video-on-demand schedule prescribes that data blocks of the title are broadcast via c parallel equal capacity channels of the broadcast system, where each broadcast channel is associated with a respective sequential channel number (see claim 3); a plurality of the broadcast channels including a plurality of time-sequentially interleaved sub-channels (col. 3 lines 62- col. 4 lines 5 of Krause); the number of sub-channels in a channel being monotonous non-decreasing with the channel number ([0083, fig. 4-6 of Seifert); the sub-channels in a channel being associated with a respective sequential sub-channel number ([0109-0112] of Seifert); the title being divided in a plurality of consecutive data block sequences; each block sequence being assigned to one respective sub-channel according to the sequence of the channel numbers and of the sub-channel numbers ([0109-0112] of Seifert); each sub-channel repeatedly broadcasting the assigned block sequence; the broadcast receiver having a capacity to simultaneously receive all sub-channels of a plurality r (1<r<c) of the channels (col. 2 lines 66- col. 3 lines 15 of Krause); the broadcast receiver being operative to receive a title by starting reception of all sub-channels of the sequentially lowest r channels and each time in response to having received all blocks of the block sequence of a sub-channel of channel i terminating reception of the sub-channel in channel i and starting reception of a sub-

channel of channel r+i until all block sequences have been received (col. 4 lines 29-45 of Kermode); the filter controller being operative to control the intermediate distributor to filter out a sub-channel if no interested receiver needs to receive a data block assigned to the sub-channel ([0047] of Allegrezza).

Regarding claim 7, Allegrezza in view of Seifert in view of Krause in view of Kermode discloses A system as claimed in claim 3, wherein the intermediate distributor is operative to extract data blocks broadcast via the r channels to be received by at least one interested receivers and transmit the extracted data blocks via predetermined channels to the interested receivers ([0048] of Seifert).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hyun J. Hong whose telephone number is (571)270-1553. The examiner can normally be reached on M-F (9:30a-7:00p).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivek Srivastava can be reached on (571)272-7304. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/H. J. H./
Examiner, Art Unit 2623

/Vivek Srivastava/

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